

THE SPECIES OF THE *ARGE MALI*-GROUP
(HYMENOPTERA: ARGIDAE) IN JAPAN

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Abstract.—One new species, *Arge shinanensis* sp. nov. is described and illustrated, and a key is provided for the species of the *mali*-group occurring in Japan.

Key Words: Argidae, *Arge*, *mali*-group

The species of the *Arge mali*-group are characterized as follows: 1, Third and fourth abdominal segments fulvous (Fig. 1); 2, forewing with dark spot below stigma which is limited by cubitus (Figs. 1, 11-13); and 3, hind tibia dirty white, but apical portion dark brown to black (Figs. 14-16).

To date, two species belonging to the *mali*-group, *Arge mali* (Takahashi) and *A. rufocincta* Gussakovskij, have been recorded in Japan (Takeuchi 1939). An additional species is described and illustrated in this paper.

KEY TO THE SPECIES OF THE
ARGE MALI-GROUP IN JAPAN

1. Antenna brown to fulvous; all tibiae dirty white but apical 1/3 of hind tibia black (Fig. 14) (saw-sheath as in Figs. 21 and 24; lancet with 22 serrulae (Fig. 27); second cubital cell of forewing as long as the third: see Fig. 11)
..... *mali* (Takahashi)
- Antenna dark brown to black; all tibiae black but apical half of hind tibia black and basal half dirty white (Figs. 15 and 16) 2
2. Frons with a weak median longitudinal keel (Fig. 3); 4th segment of maxillary palpus only slightly shorter than 5th (Fig. 9); 2nd cubital cell of forewing as long as 3rd (Fig. 12); hind basitarsus pulvillus slightly longer than half length of following segment (Figs. 17 and 19); sawsheath as in Figs. 22 and 25; lancet with 19 serrulae (Fig. 28) *shinanensis* sp. nov.

- Frons without a median longitudinal keel (Fig. 4); 4th segment of maxillary palpus 1/2 as long as 5th (Fig. 10); 2nd cubital cell of forewing longer than 3rd (Fig. 13); hind basitarsus pulvillus shorter than a half length of following segment (Figs. 18 and 20); sawsheath as in Figs. 23 and 26; lancet with 20 serrulae (Fig. 29) .
..... *rufocincta* Gussakovskij

Arge shinanensis Togashi,
NEW SPECIES

(Figs. 1, 3, 6, 9, 12, 15, 17, 19, 22, 25, 28)

Female.—Length 9 mm. Body bluish black but 3rd and 4th abdominal segments fulvous (in paratype, basal half of 5th abdominal segment fulvous); antenna black; legs black but basal half of hind tibia dirty white (Fig. 15); wings slightly yellowish hyaline, venation and stigma dark brown to black but analis dirty white (Fig. 12).

Head (Figs. 3 and 6): postocellar, interocellar, and lateral furrows nearly absent; OOL:POL:OCL = 0.8:1.0:0.75; frons with a weak median longitudinal keel; maxillary palpus 6-segmented, 4th segment shorter than 5th (ratio of length of apical three segments about 1.0:1.2:1.8) (Fig. 9).

Thorax normal. Second cubital cell of forewing about as long as third (Fig. 12); hind basitarsus slightly longer than following three segments combined (ratio about 1.0:0.9); hind basitarsus pulvillus slightly longer than half length of second tarsal seg-

ment, in lateral view (ratio about 1.0:1.8) (Fig. 19).

Abdomen normal. Sawsheath as in Figs. 22 and 25; lancet with 19 serrulae (Fig. 28).

Punctuation.—Head covered with very fine setigerous punctures but area between antennal sockets covered with shallow and scattered punctures; thorax except for mesopleuron covered with very fine setigerous punctures; mesopleuron covered with rather long greyish-white hairs.

Male.—Unknown.

Holotype: female, 18. VIII. 1979, Shinano-oiwake, Nagano Pref., Honshu, Nishida leg.

Paratype: 1 female, 29. VII. 1959, Hap-po-one, Nagano Pref., Honshu, collector unknown. All types are deposited in the National Science Museum (Nat. Hist.), Tokyo.

Distribution.—Japan (Honshu).

Remarks.—This new species very closely resembles *A. rufocincta* Gussakovskij from Japan, but it is distinguished from the latter by the length of the second cubital cell of the forewing (in *rufocincta*, the second cubital cell is longer than the third one); by the length of the hind basitarsus pulvillus (in *rufocincta*, the length of the hind basitarsus pulvillus is shorter than half length of the second segment, in lateral view); and by the form of the frons (in *rufocincta*, the frons has no median longitudinal keel).

Arge rufocincta Gussakovskij

(Figs. 4, 7, 10, 13, 16, 18, 20, 23, 26, 29)

Arge rufocincta Gussakovskij, 1935: 262.

Specimens examined: 1 female, 25. VII. 1978, Nakasuda, Hiyama, Hokkaido, Y. Sugawara leg.; 1 female, 1. VIII. 1986, Oohirayama, Shihamaki, Hokkaido, Y. Nishijima leg.

Distribution.—Japan (Hokkaido).

Food plant.—Unknown.

These specimens agree with the original description by Gussakovskij (1935).

Supplementary notes.—The third and fourth abdominal segments are fulvous;

OOL:POL:OCL = 0.8:1.0:0.75; postocellar and interocellar furrows rather distinct (Fig. 7); 4th segment of maxillary palpus $\frac{1}{2}$ as long as 5th (Fig. 10); 2nd cubital cell of forewing longer than 3rd (Fig. 13); hind basitarsus pulvillus shorter than half length of following segment, in lateral view (Fig. 20); lancet with 20 serrulae (Fig. 29).

Arge mali (Takahashi)

(Figs. 2, 5, 8, 11, 14, 21, 24, 27, 30, 31, 32)

Hylotoma mali Takahashi, 1906: 53.

Specimens examined: (Hokkaido) 2 females, 20. VII. 1985, Utonai, Tomakomai, Y. Nishida leg.; 1 female, 25. VIII. 1987, Nijibetsu, Shibeche, Y. Nishijima leg. (Honshu) 2 females, date unknown, Koiwai, Iwate Pref., K. Sato leg.; 1 male, 10. VII. 1937, Hirakubo, Fukushima Pref., K. Sato leg.; 1 female, 31. VII. 1960, Uraminotaki, Nikko, Tochigi Pref., N. Fukuda leg.; 1 female, 20. VIII. 1971, Sekirozan, Kanagawa Pref., Y. Kurosawa leg.; 1 female, 30. VII. 1932, Sugadaira, Nagano Pref., K. Sato leg.; 1 female, 28. VI. 1934, Karuizawa, Nagano Pref., K. Sato leg.

Distribution.—Japan (Hokkaido and Honshu), Korea, and Siberia.

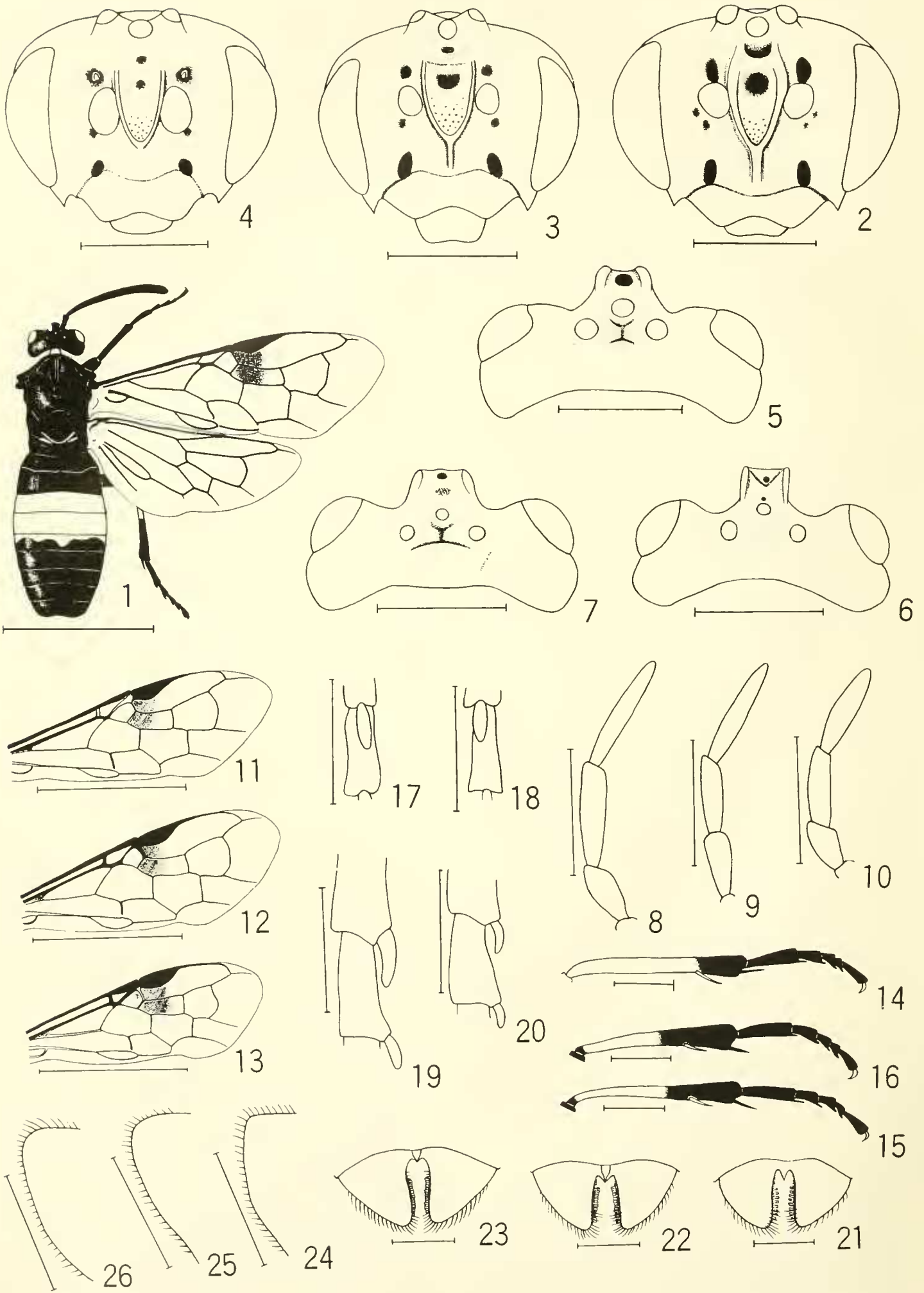
Food plant.—Apple and pear trees.

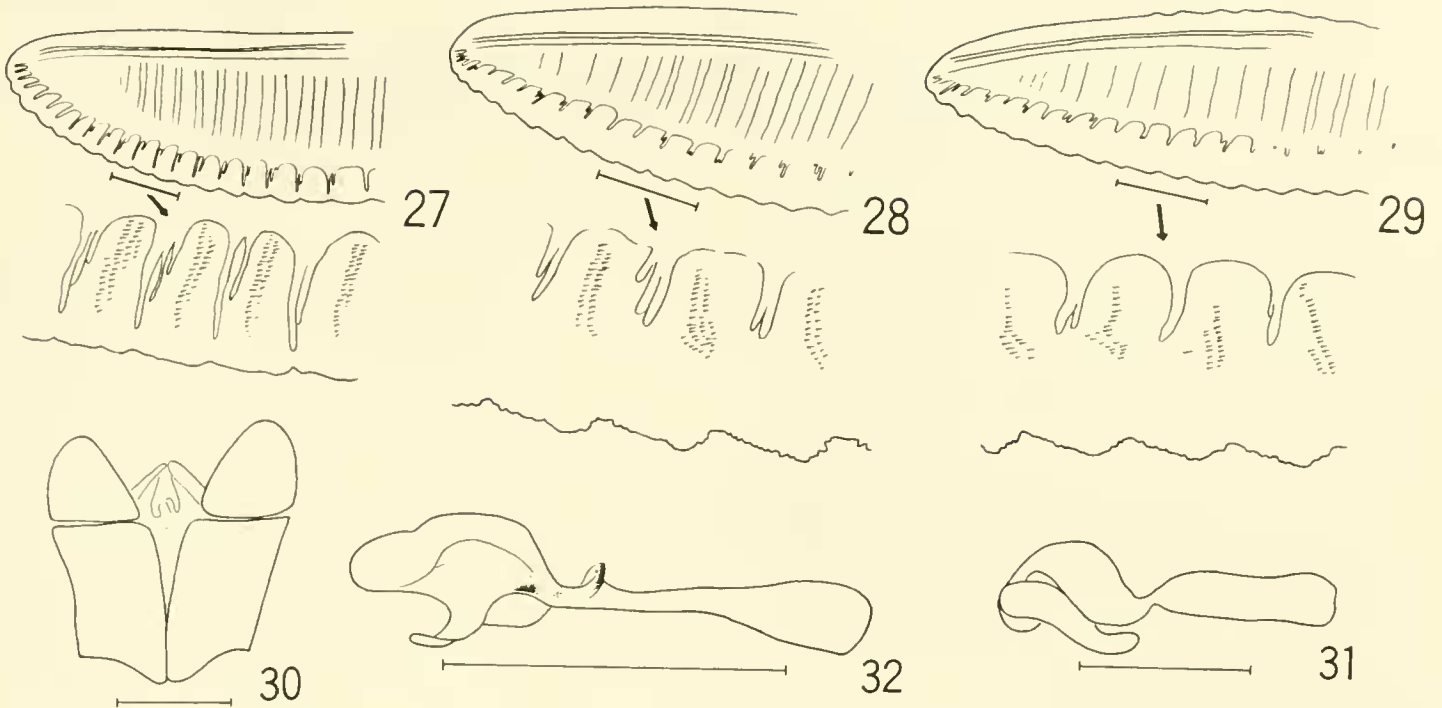
These specimens agree with a specimen identified by Takeuchi.

Supplementary notes.—OOL:POL:OCL = 0.8:1.0:1.0; 4th segment of maxillary palpus about as long as half of 5th (Fig. 8); lancet with 22 serrulae (Fig. 27). Male genitalia as in Fig. 30; volsella and sagitta as in Fig. 31; penis valve as in Fig. 32.

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Figs. 27-29. Lancet: 27, *A. mali*; 28, *A. shinanensis* sp. nov.; 29, *A. rufocincta*.

Figs. 30-32. Male genitalia of *A. mali*. 30, genitalia; 31, volsella and sagitta; 32, penis valve. (Scale of 30 and 31—0.5 mm; scale of 32—1 mm.)

City, Hokkaido, for lending me valuable material.

Takahashi, Y. 1906. [Sawfly of apple tree.] Hokkaido Noji-shikenjo Hokoku 2: 53-55 (in Japanese).
 Takeuchi, K. 1939. A systematic study on the sub-order Symphyta (Hymenoptera) of the Japanese Empire (II). Tenthredo 2: 393-439.

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- Fig. 1. Dorsal view of *Arge shinanensis* sp. nov. (Paratype).
- Figs. 2-4. Head front view: 2, *A. mali* (Takahashi); 3, *A. shinanensis* sp. nov.; 4, *A. rufocincta* Gussakovskij.
- Figs. 5-7. Head, dorsal view: 5, *A. mali*; 6, *A. shinanensis* sp. nov.; 7, *A. rufocincta*.
- Figs. 8-10. Apical three segments of maxillary palpus, lateral view: 8, *A. mali*; 9, *A. shinanensis* sp. nov.; 10, *A. rufocincta*.
- Figs. 11-13. Wing venation of forewing: 11, *A. mali*; 12, *A. shinanensis* sp. nov.; 13, *A. rufocincta*.
- Figs. 14-16. Hind tibia and tarsus, lateral view: 14, *A. mali*; 15, *A. shinanensis* sp. nov.; 16, *A. rufocincta*.
- Figs. 17, 18. Hind basitarsus pulvillus, ventral view: 17, *A. shinanensis* sp. nov.; 18, *A. rufocincta*.
- Figs. 19, 20. Hind basitarsus pulvillus, lateral view: 19, *A. shinanensis* sp. nov.; 20, *A. rufocincta*.
- Figs. 21-23. Sawsheath, dorsal view: 21, *A. mali*; 22, *A. shinanensis* sp. nov.; 23, *A. rufocincta*.
- Figs. 24-26. Sawsheath, lateral view: 24, *A. mali*; 25, *A. shinanensis* sp. nov.; 26, *A. rufocincta*. (Scale of 1, 11, 12, and 13—5 mm; scale of 2-7 and 14-16—1 mm; scale of 8-10, 17-20, and 21-26—0.5 mm.)